



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,559	03/04/2005	Edwin Nun	266369US0PCT	9365
22850	7590	02/21/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
MAZUMDAR, SONYA				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
02/21/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

Office Action Summary

Application No.

10/526,559

Applicant(s)

NUN ET AL.

Examiner

SONYA MAZUMDAR

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-20 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 28, 2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were

Art Unit: 1791

made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 through 6, 9, 10, 14, 16, 17, 18, 19, 20, 22, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerins et al. (US 6,638,603) in view of Keller et al. (EP 1153987)

With respect to claims 1, 2, 3, and 10, Kerins et al. teach a transfer coating method of a hydrophobic material on a carrier substrate to a water-sensitive film (abstract; column 3, line 66 – column 4, line 4). A carrier substrate, such as a release paper, is coated with the hydrophobic material, transferred to a film under heated conditions, and the carrier is removed to leave the material on the film (column 7, lines 33-57). Maximum protection is provided to a surface, by applying hydrophobic particles in a dot pattern so close that the dots touch each other (column 2, lines 50-51; column 6, lines 24-38).

Kerins et al. do not specifically teach transferring hydrophobic particles having a nanostructured surface to a textile sheet. However, Keller et al. teach applying a coating onto conventional surfaces, such as textiles, where the coating comprises particles with a hydrophobic surface and a porous structure, to have a completely waterproof surface (abstract; paragraphs 0018, 0053, 0075, and 0121).

It would have been obvious to provide hydrophobic particles with nanostructured surfaces, as Keller et al. taught, and one would have been motivated to do so to reduce

Art Unit: 1791

adhesion to polar liquids, such as water, and solid deposits, such as dirt (paragraph 0008).

With respect to claims 4, 5, and 24, Kerins et al. in view of Keller et al. teach using particles with diameters from 0.05 μm to 50 μm (Keller: paragraph 0043).

With respect to claim 6, Kerins et al. in view of Keller et al. teach using particles consisting of polymers, such as polypropylene and polyethylene (Keller: paragraph 0043).

With respect to claim 9, Kerins et al. in view of Keller et al. teach applying a coating, comprising polymers such as polyvinyl chloride and fluoropolymers, on a water-sensitive film (Kerins: column 4, lines 25-29)

With respect to claims 14, 16, and 17, Kerins et al. in view of Keller et al. teach producing textiles having a self-cleaning surface that have many uses, such as tents, weathering protection, and other protective coverings (Keller: paragraphs 0069, 0070, and 0075).

With respect to claim 18 and 19, Kerins et al. in view of Keller et al. teach using hydrophobic particles having surface structures in a range of 0.1 μm to 1000 μm (100 nm to 10,000,000 nm) (Keller: paragraph 0008).

"Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (see MPEP § 2144.05)

With respect to claim 22, Kerins et al. in view of Keller et al. do not mention using a specific embossing or decorating process when applying a coating, therefore, it is implicit that such a technique is not used.

With respect to claim 23, Kerins et al. in view of Keller et al. do not mention any occurrence of solvation on the surface of a coated textile sheet after applying a coating, therefore, it is implicit that such a technique is not used.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerins et al. in view of Keller et al., as applied to claim 1 above, and further in view of Toyoda et al. (US 6,245,188)

The teachings of claim 1 are as described.

Kerins et al. in view of Keller et al. do not specifically teach particles on the surface of a release paper to have hydrophobic properties after performing treatment. However, Toyoda et al. teach that it would have been obvious to perform a hydrophobic surface treatment process with a compound such as hexamethyl disilazane to decrease surface energy of and enhance removal of the release paper (column 5, lines 27-38).

5. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerins et al. in view of Keller et al., as applied to claims 1 and 14 above, and further in view of Groitzsch et al. (US 5,158,636)

The teachings of claim 1 are as described above.

With respect to claim 8, Kerins et al. in view of Keller et al. do not teach applying a coating having hydrophilic properties. However, Groitzsch et al. teach preparing a coating comprising polymer particles, where the coating is made to have hydrophilic properties (column 4, lines 42-50 and 59-61; column 8, lines 20-28; column 9, lines 17-22).

It would have been obvious to one having ordinary skill in the art to prepare a coating with hydrophilic properties, as Groitzsch et al. taught. One would have been

Art Unit: 1791

motivated to do so by routine experimentation in adding a thickening agent to a coating or depending on the use of the textiles after receiving the coating (Groitzsch: column 4, lines 42-50).

With respect to claim 15, Kerins et al. in view of Keller et al. do not specifically teach producing clothing for rainwear or safety clothing with high visibility. However, it would have been obvious to do so, as Groitzsch et al. teach using a coated textile as rainwear (column 1, lines 23-28). One would have been motivated to do so since a coated textile produced by the combination of teachings by Kerins et al. and Keller et al. are made to resist soil and wetness (paragraphs 0067 and 0069).

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerins et al. in view of Keller et al., as applied to claim 1 above, and further in view of Van Paesschen et al. (US 3,650,740)

The teachings of claim 1 are as described.

Kerins et al. in view of Keller et al. do not teach transferring a hydrophobic layer onto a coated textile. However, Van Paesschen et al. teach that it would have been obvious to transfer hydrophobic particles onto a coating to provide a water-repellant barrier on top of a textile (abstract).

Allowable Subject Matter

7. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

There is no teaching in the prior art of carrying out a transfer coating process of a hydrophobic film on a textile without the use of any adhesive, binder, or adhesion promoter.

Response to Arguments

8. Applicant's amendments and arguments, filed November 28, 2007, have been fully considered but they are not persuasive.

Applicant argues that the teachings by Kerins et al. in view of Keller et al. do not teach producing a textile with a self-cleaning surface comprising hydrophobic particles on the entire surface of the textile sheet.

Kerins et al. disclose providing water protection to a surface, by applying hydrophobic particles in a dot pattern. However, to provide maximum protection, the dots are so close that they touch each other or are interengaged, thus the dot pattern shows some continuity over the entire surface (column 2, lines 50-51; column 5, lines 7-10; column 6, lines 24-38).

Keller et al. is used solely to further teach applying hydrophobic particles to textiles and providing completely water-repellant surfaces, where the coating comprises particles with a hydrophobic surface and a porous structure (abstract; paragraphs 0018, 0053, 0075, and 0121; English translation by US 6,683,126: column 11, lines 19-31; column 16, lines 17-18).

Therefore, it would have been obvious that the entire surface of a textile is covered with hydrophobic particles to produce a water-repelling textile sheet.

All rejections are maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONYA MAZUMDAR whose telephone number is (571)272-6019. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SM

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791